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ABSTRACT

The program evaluated was developed to assist teachers in providing students with opportunities to become successful users of content materials through the installation and reinforcement of independent study skills. Lessons using high interest items in social studies content with emphasis on improving cognitive processes were designed for sequential teaching of the independent study skills. The packet of 28 lessons in five units was field tested in the 12 sixth-grade classes of the teacher participants in the program. The project is described in detail, goals are listed, and methods of evaluation and project outcomes are summarized. Tables and graphs illustrate pretest and posttest scores. (Author/MLF)

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ED128937

PROJECT STUDY

(Curriculum for Improving Student Study Skills)

PROJECT TERMINATION REPORT

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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Cleveland Public Schools

DIVISION OF RESEARCH AND DEVELOPMENT

November, 1975

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A. SUMMARY OF OPERATIONS

This evaluation focuses on the services of Project Study to the field-testing of the packet in the 12 sixth grade classes of the teacher participants in the program. The packet contains twenty-eight lessons in five units. Each is complete with teacher instructions in script form, spirit masters and transparencies. The lessons are designed for sequential teaching of the independent study skills to be applied in the social studies context.

This program was developed to assist teachers in providing pupils with opportunities to become successful users of content materials through the installation and reinforcement of independent study skills. Lessons were developed using high interest items in social studies content with emphasis on improving cognitive processes. Additional resource items designed to stimulate the pupils to do further research are included as recommended activities. Although this project was developed around sixth grade students, it is believed, by those who have worked with the project, that it is applicable to fifth through eighth grade students.

1. During March and April, 1975, Title III Adaptation Grants Fund Program held a series of six regional demonstration meetings at which this project was presented to school superintendents, principals and other educators designated by their districts to observe and assess the possibility of effective use of the program in their districts. Of the many districts applying, nineteen districts were fully funded for dissemination in the State of Ohio for the school year 1975-76. Involved in the program are 245 teachers, approximately 6,250 students and 19 Coordinators. Principals and other administrators are involved in the total operation.

2. School districts not funded by Title III have expressed interest in purchasing kits from their budgets and paying for inservice themselves. Such a case in point is Darke County, Ohio. Mr. Robert Rhodes, County Supervisor has been in telephone contact with us regarding possible dates for inservice for teachers and administrators.

3. Teachers in our own system of the Junior High School Division particularly, have asked about use of the materials for some of their classes.

4. Teachers in Special Education in several of the funded districts are engaged in use of the Learning Packet. Selected materials will be adapted to the needs of their students and presented at a slower pace.

5. Tri-Village Local School District is involving all teachers, including the Gym teachers, Librarian, athletic coaches who also teach content subjects.

6. At most regional inservice sessions there is great interest as to how to design follow-up activities to the programmed materials. We have suggested that after school inservice sessions be held during which time lessons, using the format of the programmed materials, be developed based on their own curricula of the several content areas.

Project Study was recommended for national validation. Divisions of Language Arts and Research and Development recognized a need for the revision of some of the lessons as well as test items. The learning packets and tests involved in the previous field-testing were altered and field-tested in six additional schools. The schools involved were all volunteers as were the sixth grade teachers trying out the revised units. Additional sixth grade teachers were invited to administer the pre/post tests so as to have experimental and control groups. In effect this additional field-testing was not for mastery of content but to try out the newly designed instruments.

Project Study was successful in attaining all of its objectives except Objective 1. Although this objective was not attained, a high level of satisfaction was maintained as teachers saw evidences of pupils' improved study skill competencies in reading social studies content in their classrooms.

Ratings from the Pupil Questionnaires reflect positive reactions. Although the pattern of response for each class is unique, there is a general pattern of favorable response by the participating pupils across the group.

On the Comprehensive Tests of Basic Skills administered February 1975, 88 per cent of the eight Cleveland public schools participating in the Project Study gained from two to five per cent in comparison with the sixth grade classes in the same schools on the same test given in 1974 in the following skill clusters:

- Perceiving relationship of time, order and sequence
- Drawing conclusion from facts
- Using context clues to infer meaning
- Extending meaning of indefinite ideas

TABLE I

Average Gains in Four Skill Clusters

Schools	Gains -%-
A	2
B	4
C	5
D	4
E	5
F	5
G	No gain
L	2

There are probably many other variables that contributed to these gains, however, Project Study was definitely one of them.

Project Study now has a new name -- Curriculum For Improving Student Study Skills and has been validated for national dissemination.

B. NEEDS ASSESSMENT

Reading, a process, is necessary for one to identify and interpret information contained in the subject matter of a discipline such as social studies. Subject Disciplines are dependent upon the learner's ability to apply his reading skills to the variety of materials with which he is confronted. In most reading programs reading is taught as a separate entity, unrelated to the total curriculum.

The Cleveland Public Schools has attempted to provide opportunities for pupils to become successful readers of subject disciplines. However, feedback from teachers has indicated they continue to be concerned about instructional techniques for effective transfer of reading skills to these disciplines. Observation and data from tests have revealed that pupils are weak in gathering pertinent information, perceiving relationship and making judgments using a variety of social studies sources.

An analysis of sixth grade pupils' performance, on the Comprehensive Tests of Basic Skills, which are constructed along the Bloom Taxonomy of Education Objectives, indicated that on many of the items involving skills essentially critical to the efficient reading of social studies materials, Cleveland pupils, on the average, scored below the 50 per cent level of accuracy. These skills involved:

- Perceiving relationship of time, order and sequence
- Drawing conclusion from facts
- Using context clues to infer meaning
- Extending meaning of indefinite ideas

These generalized needs were addressed through the instructional programming developed by this project. It should be recognized however, that the project focused on the specific objectives as approved by the State Title III office. Program procedures were not designed to ameliorate these specific reading needs per se, nor should it be anticipated that the services provided to a single class in participating schools on a short-term basis, which was the service arrangement of this project, could be held responsible for such changes.

C. DESCRIPTION OF THE LOCAL EDUCATION AGENCY

The Cleveland Public Schools enroll approximately 126,000 pupils in some 174 school sites throughout the city. Throughout its three elementary school districts, there are a diversity of learning needs brought about by challenges of urban living. Mastery of reading remains a formidable challenge for urban schools serving a highly mobile and culturally diverse population.

In Cleveland as in other large city areas with declining populations and deteriorating property tax bases, financial resources are not available for exemplary developing programs to meet learner needs.

Soaring costs have taken their toll on operating resources. This proposal offered an important source of support for developing and fielding-testing efforts not available to the Cleveland schools, particular schools not qualified for compensatory program funds, but evidencing comparable needs.

Project Study began with 14 sixth grade teachers, public and non-public in 1973. However, two of the non-public schools, Zion Lutheran and St. John Lutheran chose not to continue with the project the second year.

The classes of the participating teachers were representative of the variety of classroom environments to be found in the public and non-public schools in Cleveland.

Those schools represented in the project include eight public and four non-public all located in the west district served by Cleveland Public Schools. Schools participating in Project Study are the following:

Public	Non-Public
Denison	Luther Memorial
Garfield	Our Lady of Angels
Gordon	St. Mark Catholic
Hicks	St. Mark Lutheran
Longmead	
Louis Agassiz	
Louisa Mae Alcott	
Waverly	

A total of 308 public and non-public school children in grade six were involved in the field-testing of the packet formulated by the participating teachers.

D. PROJECT GOAL

First year project goals were:

- To develop a learning packet program which can be utilized by sixth grade teachers in assisting pupils to acquire independent study skills which involve reading performance and can be applied in the social studies context.

- To engage teachers in an inservice program focusing on the identification of independent study skills related to both reading and social studies, and on the development and assessment of specific instructional techniques for installing these skill experiences.

The specific objectives of the project for the initial year were:

Developmental/First Goal

1. Given twelve two-hour sessions, four of the fourteen participating sixth grade teachers will write the learning packet program which will consist of a series of teacher-designed and field-tested lesson plans and teaching techniques for acquisition of the following categories of independent study skills:

   a. Locating information
   b. Gathering and organizing information
   c. Using material from several sources
   d. Applying study skills through self-direction

   The packet will include at least one lesson plan for each of the independent study skills listed in these four categories in the Skill Outline for Project Study, and will be completed by June 7, 1974.

   Lesson plans will contain the essential elements specified for a skills lesson and will have the approval of the Supervisors of Language Arts and Social Studies.

   Criteria will include:

   a. Statement of Objective
   b. Materials Needed
   c. Teacher Preparation
   d. Procedures

      - Presentation of skill
      - Involvement with pupils to provide feedback for teachers concerning pupils' understanding of presentation
      - Directed practice of skill-teacher and pupils as a whole
      - Independent practice under teacher supervision
      - Evaluation

Developmental/Second Goal

2. Given fourteen inservice sessions, at least 80 per cent of the teacher participants will show at least a 10 per cent gain in level of expertise in identifying independent study skills related to reading/social studies skills on a locally constructed test administered on a pre-post basis.

3. Given fourteen inservice sessions, at least 80 per cent of the teacher participants will indicate a rating of satisfaction of "3 or above" with the value of inservice content of each session, based on a "1 to 5" rating scale. Participant-questionnaire feedback will be collected at the conclusion of each inservice session.

The second year project goal was:

- To improve pupil mastery of independent study skills related to both reading and social studies.

Specifically, the second year's objectives were:

Objective One

- Eighty per cent of each of the participating teachers' classes will demonstrate a 20 per cent gain in the average number correct between pre and post unit tests as a result of instruction with the learning packet for each unit involved.

Objective Two

Given an inservice program for teacher participants, the draft copy of the learning packet program developed during the initial year of operation will be further field-tested and finalized in the participating teachers' classrooms.

The learning packet will be ready for publication June 20, 1975 and will have the approval of the Directing Supervisor of Language Arts and the Supervisor of Social Studies.

The inservice program will include the following elements:

- ten two-hour after-school teacher work sessions
- fifteen two-hour after-school writing sessions
- on-site observation once every two weeks of each teacher participant's classroom by the Project Director.

An Observation Sheet will be utilized to assess the effectiveness of each lesson observed by the Project Director.

Objective Three

Eighty per cent of a sample of pupil participants will reflect a positive attitude toward the learning packet materials as evidenced by a pupil questionnaire and a Self Rating Scale administered at the conclusion of each lesson.

E. PROGRAM DESCRIPTION:

Grade Level. -- The program was focused on the sixth grade. The sixth grade classes of the participating teachers were representative of the variety of classroom environments to be found in the public and non-public schools.

Years of Operation. -- The project was implemented during the school years 1973-1974 and 1974-1975. During the first year grant period, teachers were engaged in a series of 14 two-hour inservice sessions which were designed to improve their ability to identify and plan activities for installation of independent study skills related to both reading and social studies. During this year, the development of a learning packet program to help sixth grade teachers assist pupils in becoming independent learners through use of independent study skills took place. Try-out of the packets was undertaken by the participating teachers in their classes.

In the second year, emphasis was on revising the learning packet components, field-testing them with new sixth grade pupils and determining if skills were acquired and if the program motivated pupils toward further application of their newly acquired skills in research-oriented activities.

Sample Size. -- The first group of pupils (14 classes) entered the program in September 1973; since that time 12 classes entered in September 1974. Six classes, constituting a control group and six classes constituting an experimental group, were involved in a try-out of the tests for a second phase of the evaluation in the spring of 1975. Additional classes field-tested Unit IV during the 1975 summer school session. Approximately 1,800 students comprised the total project population for evaluation of the materials and tests in the various stages of the project.

Curricula. -- The project staff developed a learning packet program designed to help teachers assist students in developing independence in the use of study skills relating to both reading and social studies, grades five through eight.

Materials. -- This packet contains thirty-two lessons in five units. Each is complete with pre and post tests, teacher instructions, spirit master, transparencies and tapes. The pretest enables the teacher to assess students' abilities to utilize the skill techniques contained in that unit. An item analysis at the end of each pretest guides the teacher in identifying student strengths and weaknesses in specific skill areas. Upon entering the project each student is given the introductory unit pretest. An item analysis or prognosis is used to determine which lessons are needed. The appropriate lessons are taught, provisions are made for those needing additional practice or enriching activities, the post test is given and the student proceeds to the next unit wherein the same step by step procedures are followed. The unit format includes the following steps.

1. Pretest
2. Use of Item Analysis
3. Teaching of appropriate lessons, provide follow-up practice or enrichment activities
4. Post test

Procedure for each lesson involves these activities:

1. Presentation of skill to be taught
2. Pupil feedback
3. Directed practice
4. Independent practice
5. Evaluation
6. Administration of a pupil questionnaire

Each lesson contains a behavioral objective, teacher directions and evaluation. The five skill areas are as follows:

Introductory Unit	- Following Simple and Complex Directions	(3 Lessons)
Unit I	- Recognizing Stated Information	(12 Lessons)
Unit II	- Identifying and Comprehending Major Ideas and Their Interrelationships	(6 Lessons)
Unit III	- Extending Meaning Beyond Stated Information	(5 Lessons)
Unit IV	- Making Judgments Based on Internal Evidence and External Criteria	(6 Lessons)

The packet addresses itself to the development of higher cognitive processes in research-oriented activities through procedures and format designed for installing these skills. The skills are maintained through consitent application in the content areas.

Staffing. -- A project coordinator provided leadership for this project. A committee of four teachers functioned as curriculum writers under the direction of the coordinator. Final editing was done by the Division of English Language Arts under the supervision of the Directing Supervisor of that division.

Facilities. -- No special facilities were required.

Time Involved. -- The program required approximately 48 hours of teacher inservice. Instructional time for the classes to do the entire set of 32 lessons ranged from 20 to 45 minutes per lesson depending on pupil information and teacher style.

Parental Involvement. -- Parents of participating children at each school were involved in information meetings.

Community Communication Council. -- A Community Communication Council was organized for the purposes of publicizing progress and activities of the project.

The five members, including a president, secretary and assistant president, scheduled meetings monthly.

Council members accompanied Project Director to various schools and observed lessons being field-tested. They also spoke at PTA and other civic meetings to inform parents and other members of the community the progress and effectiveness of Project Study.

Preservice/Inservice Training. -- At least one day of inservice for all participating teachers, and if possible, school principals, was found to be necessary to the appropriate implementation of this program.

Costs:

The total cost for implementing the two-year project was $98,770.49. The project funds in each category were disbursed in the following way:

100 - Administration	$24,059.31
200 - Instruction	65,271.10
800 - Fixed Charges	8,116.08
1230 - Equipment	1,324.00
TOTAL	$98,770.49

Current ongoing maintenance costs of the program are nominal. Beyond the usual cost of paper for reproduction of the materials there is no operational cost required other than maintenance of overhead projectors and other equipment used in the program.

Total Federal support under ESEA Title III	$98,770.49
Total Federal support other than ESEA	0
Total non-Federal Support	0
Total project cost	$98,770.49

F. PROJECT OUTCOMES

A Consultant Teacher (Project Director), under the supervision of the Directing Supervisor of Language Arts--who collaborated with the Supervisor of Social Studies--was responsible for the coordination of the project activities. She planned and conducted inservices' and writers' sessions for project participants. These sessions were held for the purpose of reviewing, correcting and rewriting materials that were field-tested in participants classrooms.

Emphasis, the second year, was placed on field-testing the lessons in the participants classrooms. Improving pupils' performance, which was documented by pre/post test results, was the high priority of the project. The teaching approaches and techniques developed were influenced by their commitment to Project Study.

Director of the Project observed each class every two weeks and made written comments on observation sheets of which she eventually gave to the evaluator. She also discussed these comments with the teacher and in the inservice sessions if they were of value to the group. Any problems with materials or implementing them in classrooms were deliberated upon and, if necessary, corrections were made. Changes were constantly being made in lessons and tests for the betterment of them. As participants finalized changes, writers made permanent corrections or changes in materials.

There was on-going evaluation in the classrooms with pre/post lesson test and pupil questionnaires. Evaluators from the Division of Research and Development observed in the classrooms as well as at inservice sessions.

Results of Pre/Post Test Scores by Units (See tables and charts following this section)

Unit I (See Tables 3 and 4.)

. Range of average gains	13% to 34%
. Number of classes with 20% gain	7
. Percentage of classes with 20% gain	58%
. Total average gain of classes	19%
. Range of average gains of a sample of lessons	9% to 37%
. Total average gain of a sample of lessons	24%

Significant "t's" were observed in Unit I validating the significant improvement made by pupils in 100 per cent of classes between pre and post treatment times. Table 3 presents these levels of significance in reading skills and social studies content.

Table 6a and 6b show the significant gain in lessons of Unit I.

These observable changes prove that Unit I of Project Study was a positive influence on the pupils reading performance.

Unit II (See Tables 7 and 8.)

. Range of average gains of classes	3% to 40%
. Number of classes with 20% gain	3
. Percentage of classes with 20% gain	33%
. Total average gain of classes	19%
. Range of average gain of sample of lessons	6% to 59%
. Total average gain of sample of lessons	21%

Significant "t's" were observed in Unit II test results in all classes with the exception of one. Ninety-one per cent of the classes showing observable significant t's validates the significant improvement made by pupils between pre and post treatment times. (See Table 9.)

There were significant differences between the pre and post test mean scores in 70 per cent of the sample classes (Table 10). These observable changes denotes that Unit II of Project Study was a positive influence on reading performance.

Unit III (See Tables 11 and 12.)

. Range of average gains of classes	7% to 34%
. Number of classes with 20% gain	3
. Percentage of classes with 20% gain	33%
. Total average gain of classes	21%
. Range of average gain of sample of lessons	6% to 22%
. Total average gain of sample of lessons	13%

Significant "t's" were observed in Unit III validating the significant improvement made by pupils in all twelve classes between pre and post treatment times. Table 13 represents these levels of significance in reading skills and social studies content.

Table 14 shows the significant gain of pupils performance on pre/post tests in lessons in Unit III.

There were significant differences between pre/post test mean scores in 100 per cent of sample classes. Lessons in Unit III of Project Study had positive influence on participating pupils reading performance.

Unit IV (See Tables 15 and 16)

. Range of average gains of classes	10% to 25%
. Number of classes with 20% gain	5
. Percentage of classes with 20% gain	42%
. Total average gain of classes	16%
. Range of average gain of sample of classes	6% to 52%
. Total average gain of sample of lessons	20%

There were significant differences between pre and post test mean scores in 83 per cent of classes (10). These observable changes show that Unit IV of Project Study was a positive influence on the pupils' reading performance. (Tables 17-18)

TABLE 2

SUMMARY OF PUPIL QUESTIONNAIRE

Percentages of a Sample of Pupils With Favorable Attitudes Toward Lessons According to Units

Unit I from Tables 20a,b,c

Lessons	Percentage of Favorable Attitudes
1	93%
2	95%
3	98%
4	91%
5	97%
6	87%
7	100%
8	92%
9	93%
10	91%

The majority of a sample number of pupils gave favorable responses in all lessons in Unit I.

TABLE 2 (Cont'd)

Unit II from Table 21

Lessons	Percentage of Favorable Attitudes
1	88%
2	91%
3	98%
4	96%
5	91%

In Unit II the majority of sample number of pupils gave a favorable response to all lessons.

Unit III from Table 22

Lessons	Percentage of Favorable Attitudes
1	96%
2	82%
3	87%
4	93%
5	88%

In Unit III the majority of sample number of pupils responded favorable toward all lessons.

Unit IV from Table 23

Lessons	Percentage of Favorable Attittudes
1	56%
2	96%
3	72%
4	91%
5	79%
6	69%

Favorable responses were given by the majority of sample numbers of pupils in all classes.

Data from a sample of pupil questionnaires prove that pupil participants in Project Study had a positive attitude toward the lessons in all units.

Teachers and Principals of participating schools in Project Study continuously gave positive feedback in reference to outcome of lessons, pupils' attitude toward lessons and results of pre/post lessons and unit tests. They related that they saw changes in the study habits of participanting pupils as well as a high level of interest by them in the lessons. By administering a pre/post test before and after each lesson, teachers quickly and easily detected the strengths and weaknesses of the lessons.

TABLE 3

PROJECT STUDY

AVERAGE LEVELS OF ACCURACY

Pre-Post Test Scores

Unit I

Schools	Pre %	Post %	% Gained
A	49	77	28
B	40	81	41
C	46	73	27
D	41	75	34
E	47	68	21
F	46	68	22
G	72	89	17
H	51	68	17
I	65	84	19
J	75	88	13
K	67	83	16
L	46	75	29
TOTAL	53	77	24

PROJECT STUDY

Average Levels of Accuracy -- Pre-Post Test Scores

UNIT I

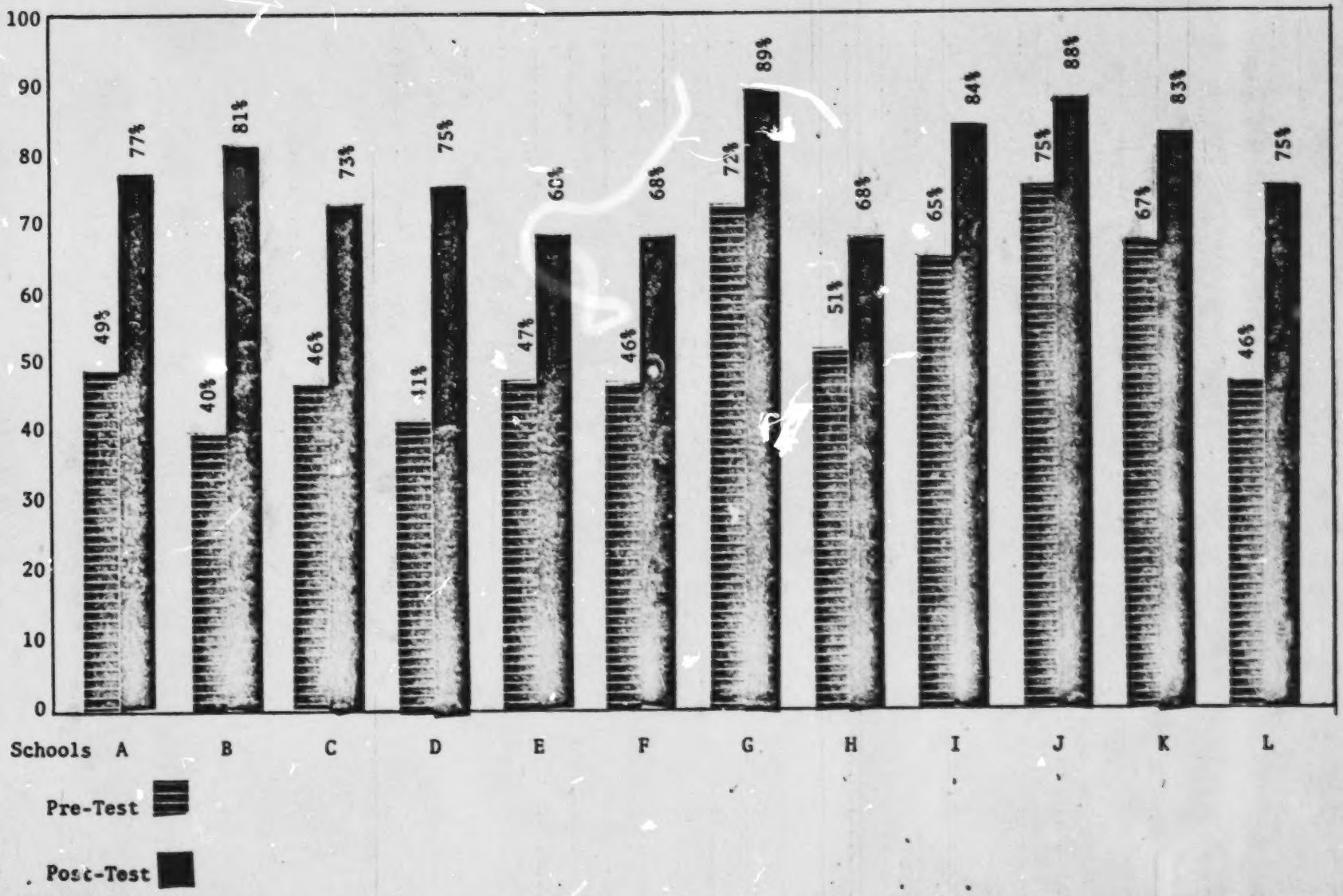


TABLE 4

PROJECT STUDY

Average Levels of Accuracy - Pre-Post Test Scores

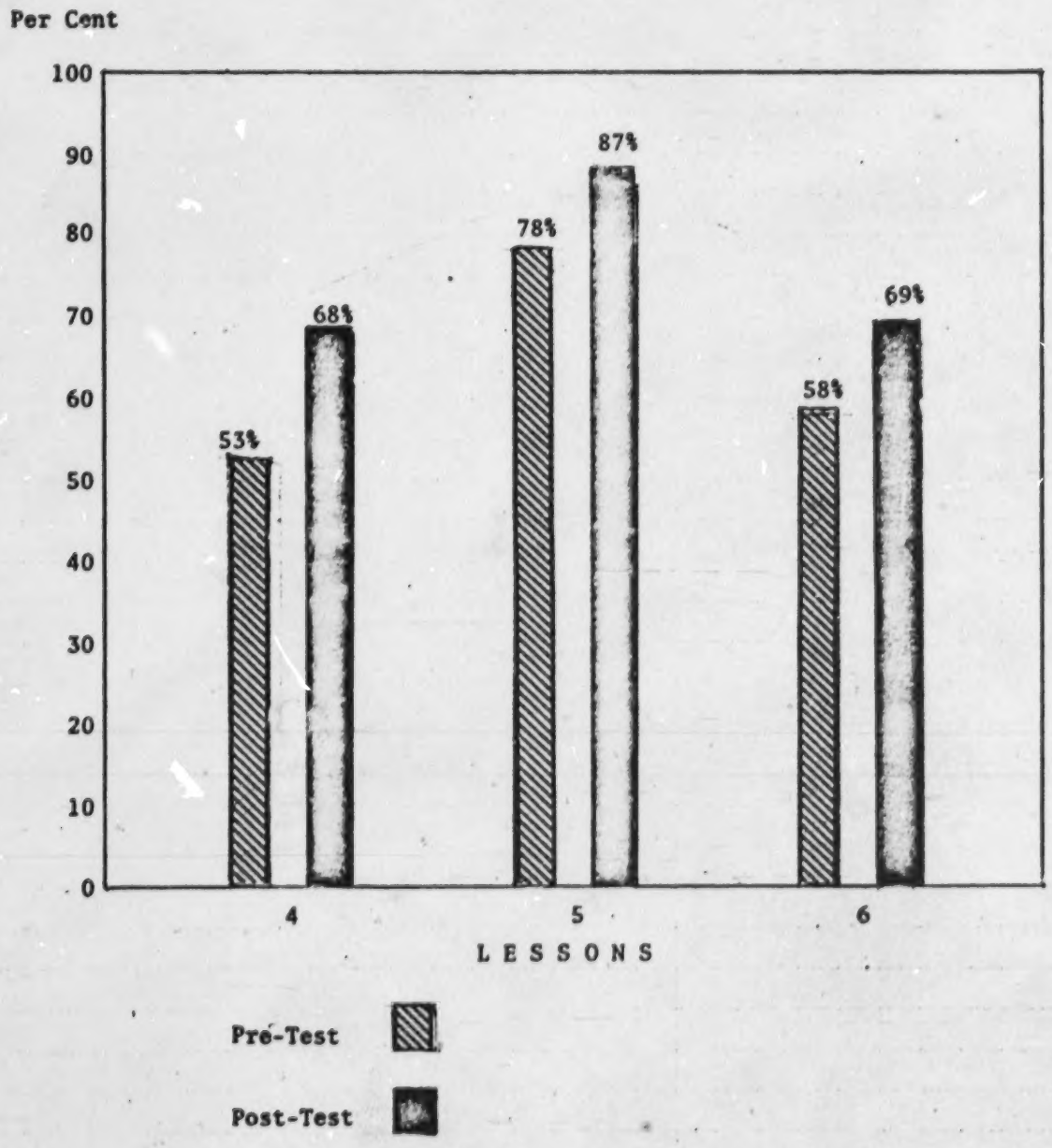
Unit I - Total Lessons

Lessons	Pre-Test %	Post-Test %	Gained %
*			
4	53	68	15
5	78	87	9
6	58	69	11
7	69	80	11
8	70	82	12
9	80	90	10
10	35	69	34
11	17	54	37
TOTAL	57	74	17

*No Pre-Post test given for lessons 1-3

Levels of Accuracy - Pre-Post Test Scores

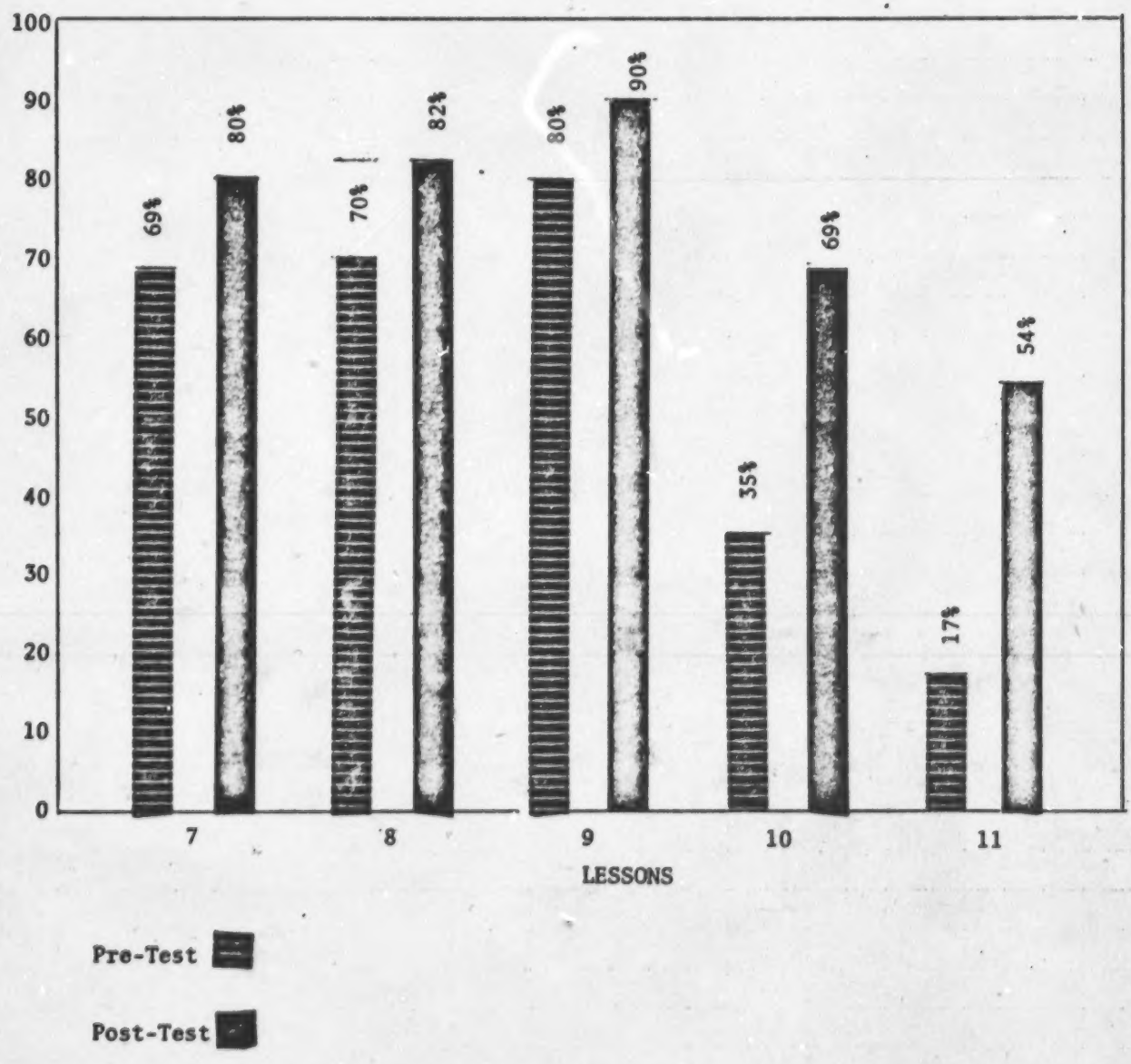
Lessons 4-6



PROJECT STUDY

Average Levels of Accuracy -- Pre-Post Test Scores

Lessons 7-11



PROJECT STUDY

Average Levels of Accuracy -- Pre-Post Test Scores

Unit I - Total Schools

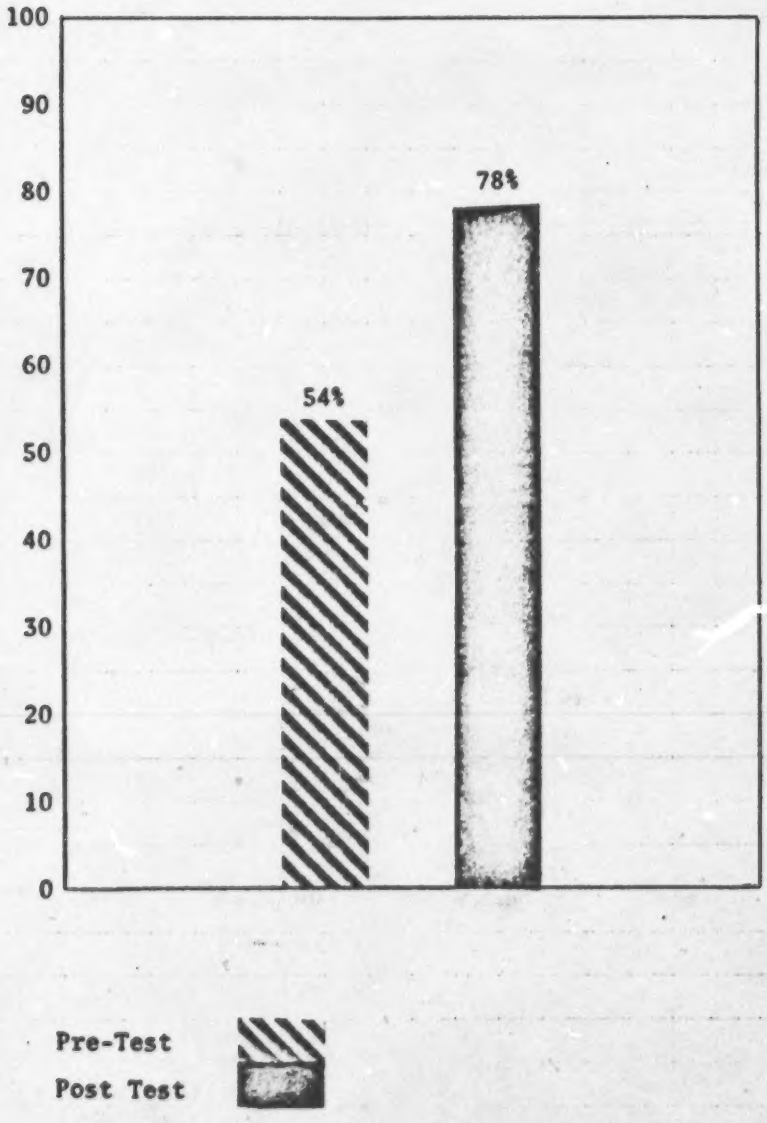


TABLE 5

PROJECT STUDY

Summary of Pre-Post Test Scores

Unit I

Unit I / School	No. of Pupils	Pre-Test Mean	Pre-Test S.D.	Post-Test Mean	Post-Test S.D.	t	Significance Level
A	27	39.96	10.79	62.07	6.66	12.349	.001
B	22	31.64	10.38	66.68	9.05	18.243	.001
C	31	37.16	13.37	59.39	10.17	14.062	.001
D	25	33.28	8.71	60.88	8.23	19.107	.001
E	24	38.04	8.79	55.04	10.84	7.564	.001
F	20	37.00	9.52	55.30	9.74	8.210	.001
G	28	58.21	9.76	72.04	3.77	8.476	.001
H	15	41.13	9.98	55.47	11.48	7.670	.001
I	27	53.41	12.41	67.70	8.05	8.278	.001
J	25	60.96	7.32	71.96	4.82	6.493	.001
K	20	53.80	10.99	66.85	6.32	8.456	.001
L	23	37.26	12.58	60.74	12.23	9.351	.001
TOTALS	287	43.75	14.53	63.21	10.43	18.395	.001

TABLE 6a

PROJECT STUDY

Summary of Pre-Post Test Scores

LESSONS 1-6

Lesson / School	No. of Pupils	Pre-Test Mean	Pre-Test S.D.	Post-Test Mean	Post-Test S.D.	t	Significance Level
Lesson 1							
A	32	*N.A.	--	7.219	1.916	--	--
C	31	*N.A.	--	7.645	2.103	--	--
Lesson 2							
A	34	*N.A.	--	7.265	2.305	--	--
C	34	*N.A.	--	7.824	2.149	--	--
I	29	*N.A.	--	9.000	1.965	--	--
Lesson 3							
A	30	*N.A.	--	7.067	2.529	--	--
G	28	*N.A.	--	9.392	1.113	--	--
Lesson 4							
H	13	6.15	1.61	7.69	1.68	3.682	.01
E	27	4.30	2.37	5.85	2.17	4.236	.001
TOTAL	40	4.90	2.32	6.45	2.20	3.025	.01
Lesson 5							
B	22	5.77	2.54	6.41	1.72	1.253	**n.s.
E	29	7.24	1.63	8.41	.85	4.458	.001
J	22	8.09	.85	8.73	.62	3.780	.01
TOTAL	73	7.05	2.01	7.90	1.51	2.864	.01
Lesson 6							
B	17	5.41	2.66	7.29	1.87	3.888	.01
D	26	6.50	1.58	7.42	1.39	3.728	.001
E	25	5.68	1.87	7.00	2.00	2.958	.01
H	14	5.43	1.68	5.71	2.02	1.000	**n.s.
TOTAL	82	5.84	2.00	6.98	1.90	3.698	.001

* Not administered.

**No significant gain.

TABLE 6b
PROJECT STUDY

Summary of Pre-Post Test Scores

LESSONS 7-11

Lesson / School	No. of Pupils	Pre-Test Mean	Pre-Test S.D.	Post-Test Mean	Post-Test S.D.	t	Significance Level
Lesson 7							
A	35	26.34	5.95	27.91	4.84	2.042	.05
E	27	23.19	7.44	27.00	5.77	3.530	.001
F	17	20.24	4.43	30.41	3.71	11.913	.001
TOTAL	79	23.95	6.67	28.14	5.13	6.480	.001
Lesson 8							
E	30	20.07	5.42	24.13	5.41	5.706	.001
G	25	26.08	4.05	31.28	2.01	7.258	.001
K	19	23.16	4.11	27.21	2.46	5.835	.001
TOTAL	74	22.89	5.34	27.34	4.92	10.679	.001
Lesson 9							
G	26	3.04	1.29	3.35	.99	2.911	.01
J	25	9.36	1.26	9.32	1.83	.088	*N.S.
L	24	7.17	266	8.42	1.68	3.978	.001
TOTAL	75	8.20	2.04	8.87	1.58	3.137	.01
Lesson 10							
D	27	7.11	2.38	12.59	3.28	7.310	.001
F	20	4.25	2.05	17.65	21.77	2.706	.02
H	13	7.54	3.90	11.46	2.71	4.456	.001
TOTAL	60	6.25	3.04	12.37	3.43	11.565	.001
Lesson 11							
E	30	4.70	3.34	12.60	4.79	9.429	.001
L	27	2.96	2.65	12.44	7.53	6.982	.001
TOTAL	57	3.88	3.15	12.53	6.24	11.092	.001

*No significant gain.

TABLE 7

PROJECT STUDY

AVERAGE LEVELS OF ACCURACY

Pre-Post Test Scores

Unit II

Schools	Pre %	Post %	% Gained
A	61	79	18
B	34	66	32
C	55	68	13
D	53	68	15
E	61	76	15
F	68	87	19
G	63	89	26
H	55	74	19
I	66	84	18
J	84	97	13
K	76	79	3
L	37	71	40
TOTAL	58	79	21

PROJECT STUDY

Average Levels of Accuracy -- Pre-Post Test Scores

Unit II

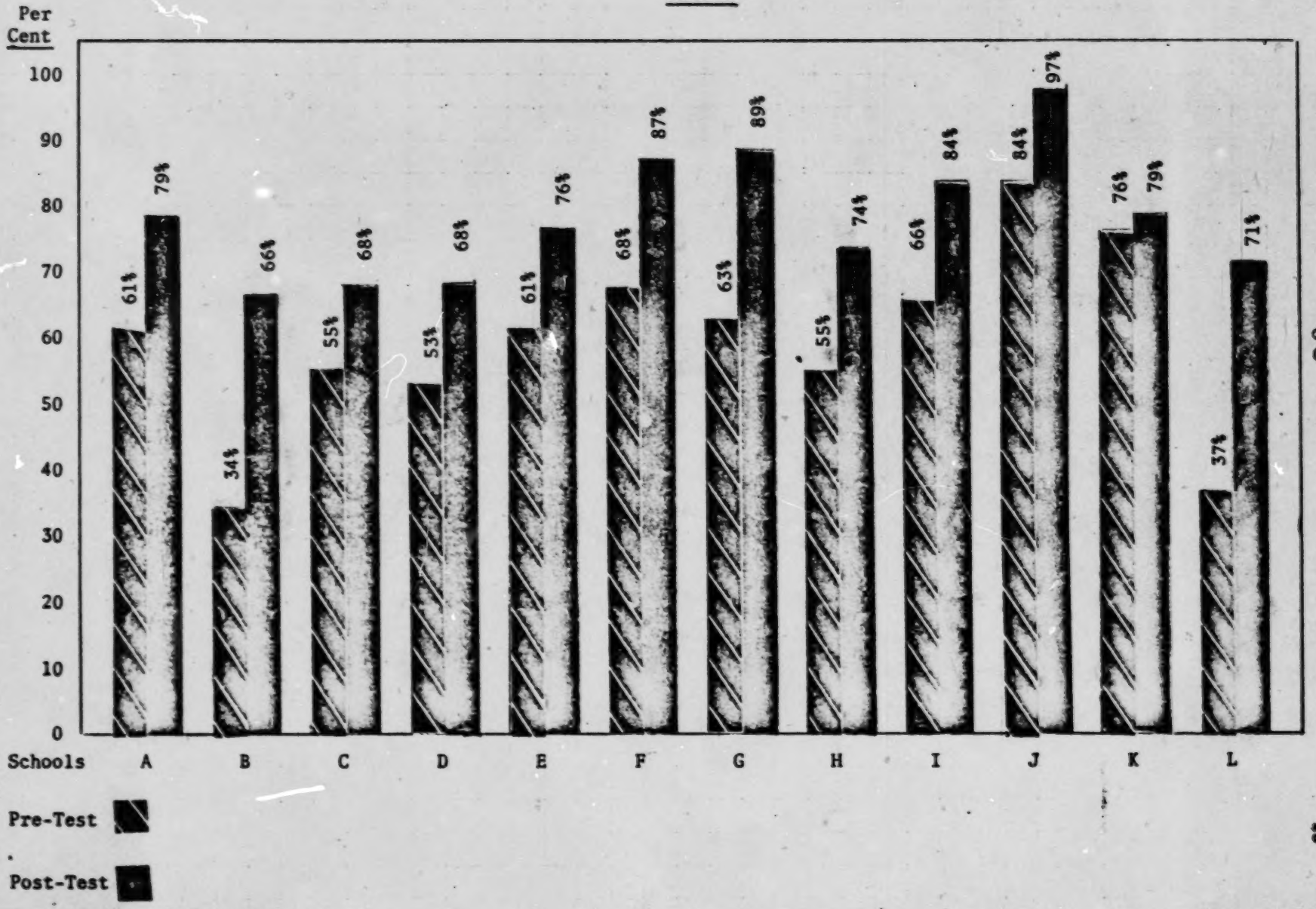


TABLE 8

PROJECT STUDY

Average Levels of Accuracy - Pre-Post Test Scores

Unit II - Total Lessons

Lessons	Pre-Test %	Post-Test %	Gained %
1	73	84	11
2	26	80	54
3	68	74	6
4	38	97	59
5	55	73	18
TOTAL	52	82	30

PROJECT STUDY

Average Levels of Accuracy -- Pre-Post Test Scores

Unit II -- Lessons 1-5

PROJECT STUDY

Average Levels of Accuracy -- Pre-Post Test Scores

Unit II -- Total Schools

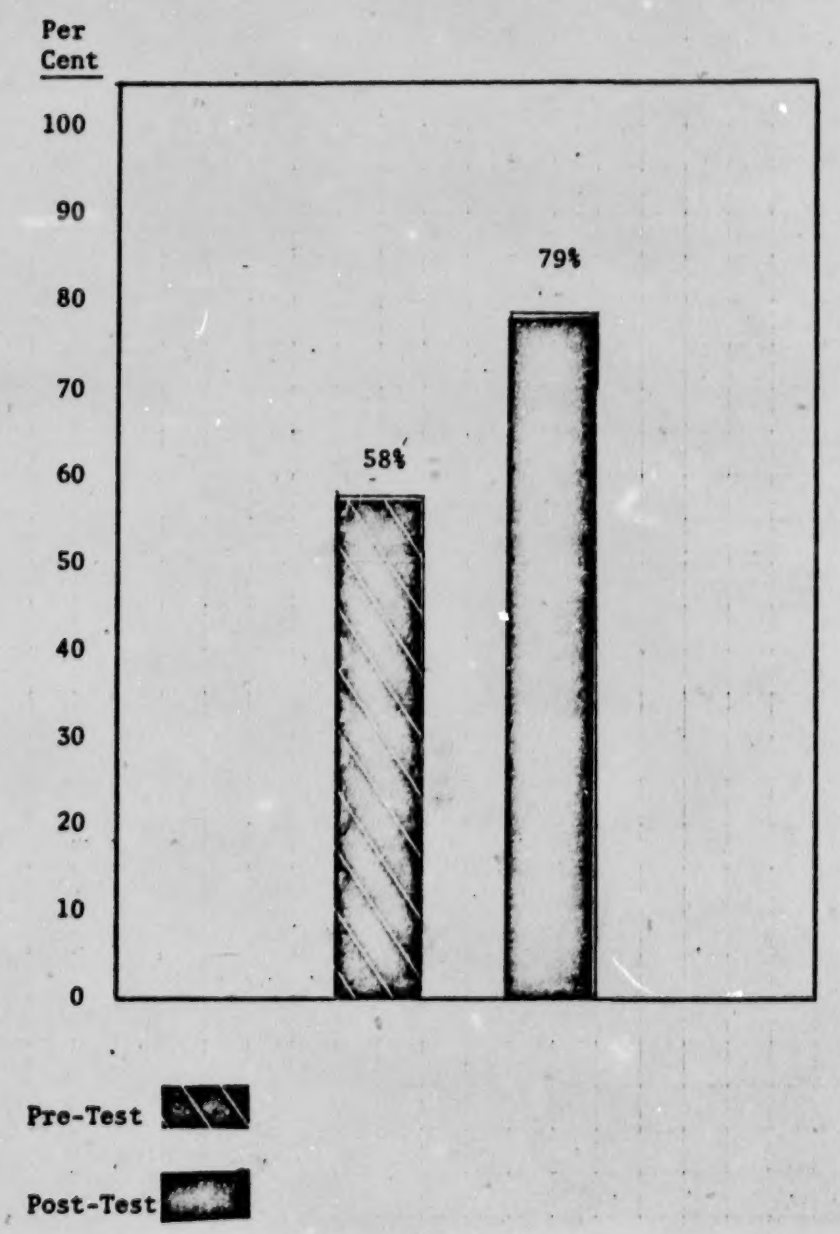


TABLE 9

PROJECT STUDY

Summary of Pre-Post Test Scores

Unit II

Unit II / School	No. of Pupils	Pre-Test Mean	Pre-Test S.D.	Post-Test Mean	Post-Test S.D.	t	Significance Level
A	31	23.16	6.14	29.90	4.67	7.207	.001
B	28	13.21	7.86	24.75	8.55	8.821	.001
C	30	21.00	7.07	25.70	7.04	6.895	.001
D	33	20.48	6.11	26.42	6.01	6.441	.001
E	31	23.32	8.65	29.03	6.97	4.948	.001
F	24	26.04	6.76	32.92	3.79	6.323	.001
G	26	23.69	6.49	34.15	3.53	8.293	.001
H	15	21.13	6.84	28.27	6.17	7.172	.001
I	19	25.05	5.63	32.26	3.68	5.541	.001
J	25	31.84	4.67	37.00	1.60	6.100	.001
K	19	29.21	6.76	30.58	6.06	1.337	.20
L	24	14.08	10.60	27.13	8.17	8.300	.001
TOTALS	305	22.43	8.76	29.62	6.95	11.219	.001

TABLE 10

PROJECT STUDY

Summary of Pre-Post Test

Unit II - Lessons 1-5

Lesson / School	No. of Pupils	Pre-Test Mean	Pre-Test S.D.	Post-Test Mean	Post-Test S.D.	t	Significance Level
Lesson 1							
E	30	8.30	2.24	9.87	2.32	3.943	.001
H	9	10.44	1.26	10.89	1.37	1.835	.01
TOTAL	39	8.79	2.24	10.10	2.18	2.576	.02
Lesson 2							
F	24	2.38	1.98	4.75	.78	5.647	.001
G	24	.75	1.13	4.79	.87	14.162	.001
TOTAL	48	1.56	1.80	4.77	.82	11.106	.001
Lesson 3							
C	32	3.16	1.64	3.72	1.12	2.329	.05
I	26	5.19	.73	5.35	.83	.941	N.S.
TOTAL	58	4.07	1.66	4.45	1.29	1.363	.20
Lesson 4							
D	30	5.83	4.97	12.37	1.08	7.125	.001
J	25	3.76	4.19	12.88	.43	10.866	.001
TOTAL	55	4.89	4.75	12.60	.89	11.731	.001
Lesson 5							
E	24	5.08	3.83	9.04	2.65	4.882	.001
K	20	8.45	2.13	8.50	2.31	.114	N.S.
TOTAL	44	6.61	3.59	8.80	2.52	3.264	.01

TABLE 11

PROJECT STUDY

AVERAGE LEVELS OF ACCURACY

Pre-Post Test Scores

Unit III

Schools	Pre %	Post %	% Gained
A	54	69	15
B	38	54	16
C	44	56	12
D	54	64	10
E	56	67	11
F	62	74	12
G	48	92	44
H	51	64	13
I	62	69	7
J	67	90	23
K	69	82	13
L	51	85	34
TOTAL	51	72	21

PROJECT STUDY

Average Levels of Accuracy -- Pre-Post Test Scores

Unit III

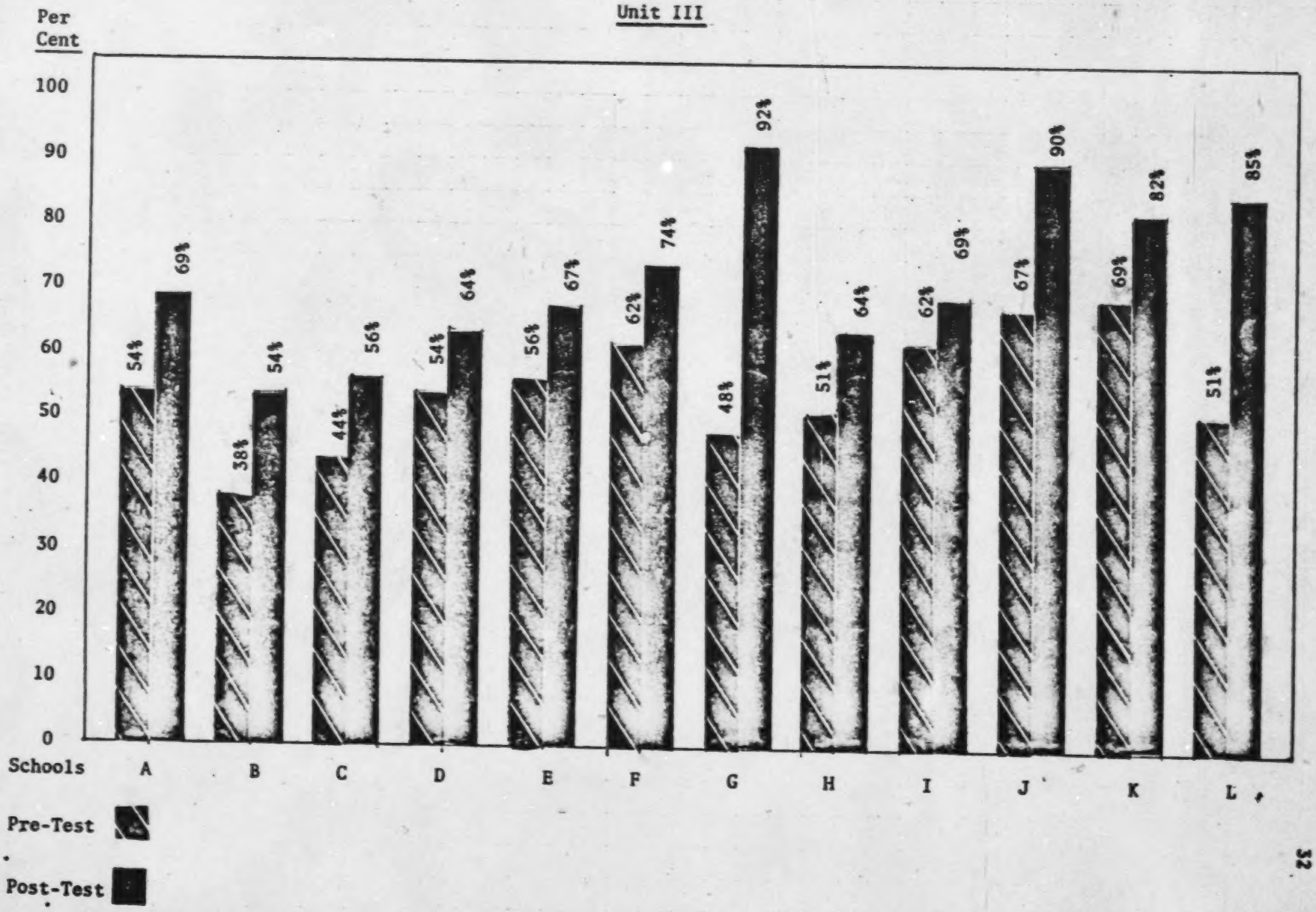


TABLE 12

PROJECT STUDY

Average Levels of Accuracy - Pre-Post Test Scores

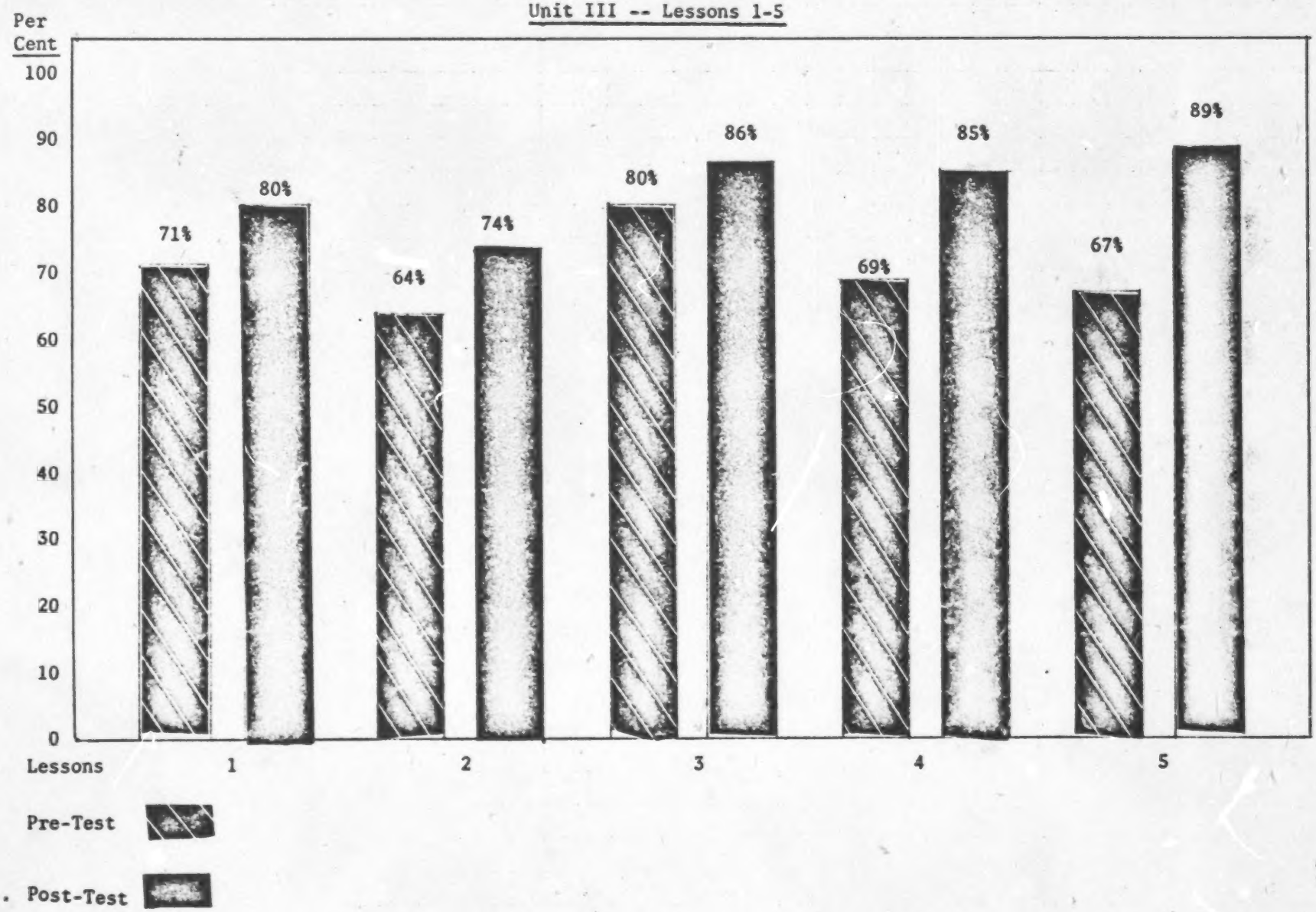
Unit III - Total Lessons

Lessons	Pre-Test %	Post-Test %	Gained %
1	71	80	9
2	64	74	10
3	80	86	6
4	69	85	16
5	67	89	22
TOTAL	70	83	13

PROJECT STUDY

Average Levels of Accuracy -- Pre-Post Test Scores

Unit III -- Lessons 1-5



PROJECT STUDY

Average Levels of Accuracy -- Pre-Post Test Scores

Unit III -- Total Schools

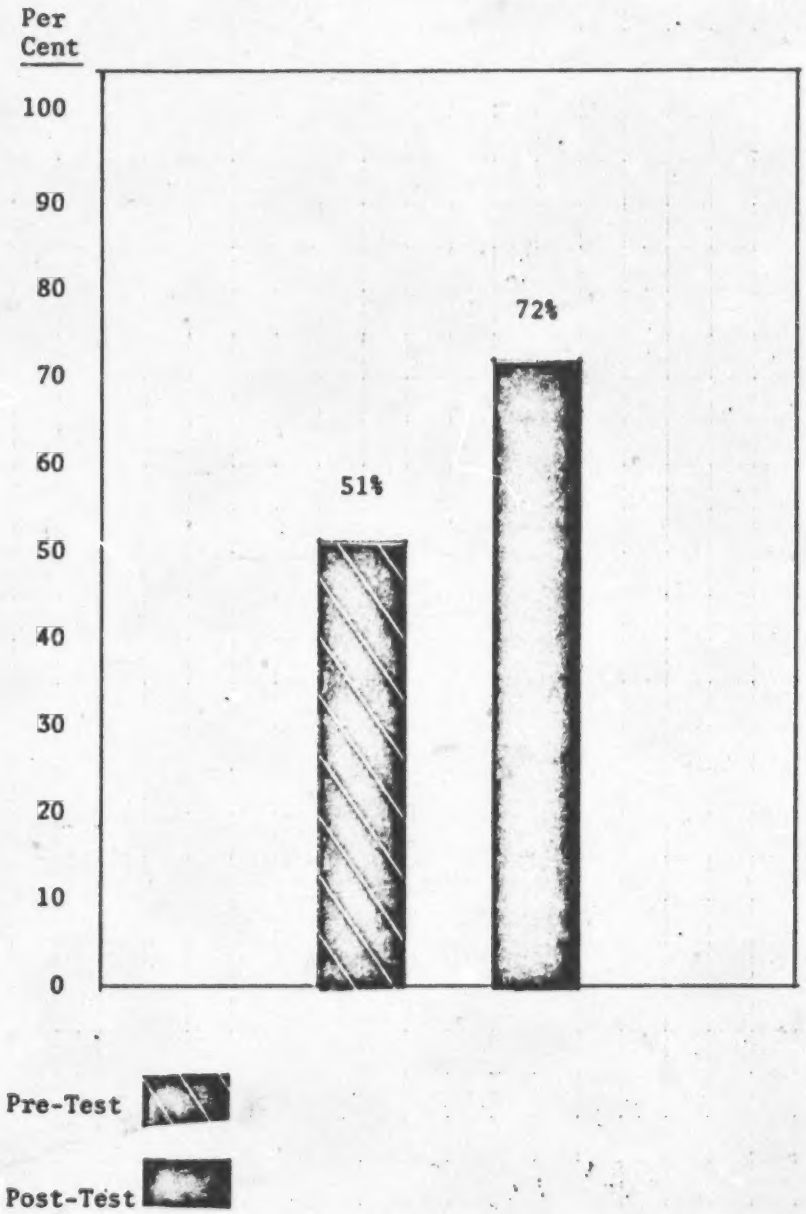


TABLE 13

PROJECT STUDY

Summary of Pre-Post Scores

Unit III

Unit 3 / School	No. of Pupils	Pre-Test		Post-Test		t	Significance Level
		Mean	S.D.	Mean	S.D.		
A	31	21.26	4.94	26.68	4.83	5.657	.001
B	27	14.78	3.78	21.19	4.75	6.636	.001
C	31	17.03	4.44	22.26	5.19	6.435	.001
D	25	20.64	4.45	25.44	5.19	4.316	.001
E	30	21.70	6.95	26.00	6.14	5.339	.001
F	26	24.04	4.72	28.81	4.43	4.654	.001
G	28	14.32	3.38	35.89	3.07	34.082	.001
H	14	19.93	5.74	25.36	5.43	4.163	.001
I	28	23.29	6.28	26.75	3.92	3.292	.01
J	22	25.73	4.50	35.05	3.04	11.911	.001
K	20	26.90	3.39	31.55	3.44	5.491	.001
L	26	20.38	5.29	32.58	4.24	11.305	.001
TOTALS	308	20.59	6.22	27.96	6.47	14.374	.001

TABLE 14

PROJECT STUDY

Summary of Pre-Post Test

Unit III -- Lessons 1-5

Lesson / School	No. of Pupils	Pre-Test Mean	Pre-Test S.D.	Post-Test Mean	Post-Test S.D.	t	Significance Level
Lesson 1							
E	32	7.53	1.77	8.53	1.22	3.436	.01
F	24	7.25	1.56	7.58	1.15	1.138	N.S.
L	24	6.54	1.78	7.63	1.35	2.234	.05
TOTAL	80	7.14	1.76	7.97	1.32	3.329	.01
Lesson 2							
A	24	5.96	1.70	6.29	1.37	1.093	N.S.
H	15	5.53	1.71	5.20	1.72	.892	N.S.
J	32	4.56	2.09	5.19	2.05	1.494	.20
L	21	4.86	2.34	7.24	1.27	4.905	.001
TOTAL	92	5.15	2.07	5.94	1.87	2.705	.01
Lesson 3							
B	25	9.52	1.55	10.40	1.23	2.768	.02
E	30	9.17	1.55	9.50	1.28	1.381	.20
G	25	10.28	1.11	11.04	.96	3.079	.01
TOTAL	80	9.62	1.50	10.26	1.33	2.815	.01
Lesson 4							
C	31	6.39	1.90	8.42	1.21	6.888	.001
I	27	7.44	1.99	8.59	1.19	3.651	.01
TOTAL	58	6.87	2.00	8.49	1.20	5.221	.001
Lesson 5							
D	17	4.41	.91	4.76	.81	1.144	N.S.
J	24	3.71	1.95	5.71	.45	5.067	.001
TOTAL	41	3.99	1.63	5.31	.77	4.593	.001

TABLE 15

PROJECT STUDY

AVERAGE LEVELS OF ACCURACY

Pre-Post Test Scores

Unit IV

Schools	Pre %	Post %	% Gained
A	65	85	20
B	45	60	15
C	45	65	20
D	50	65	15
E	60	70	10
F	60	75	15
G	65	80	15
H	60	70	10
I	65	75	10
J	75	95	20
K	65	85	20
L	55	80	25
TOTAL	59	75	16

PROJECT STUDY

Average Levels of Accuracy -- Pre-Post Test Scores

Unit IV

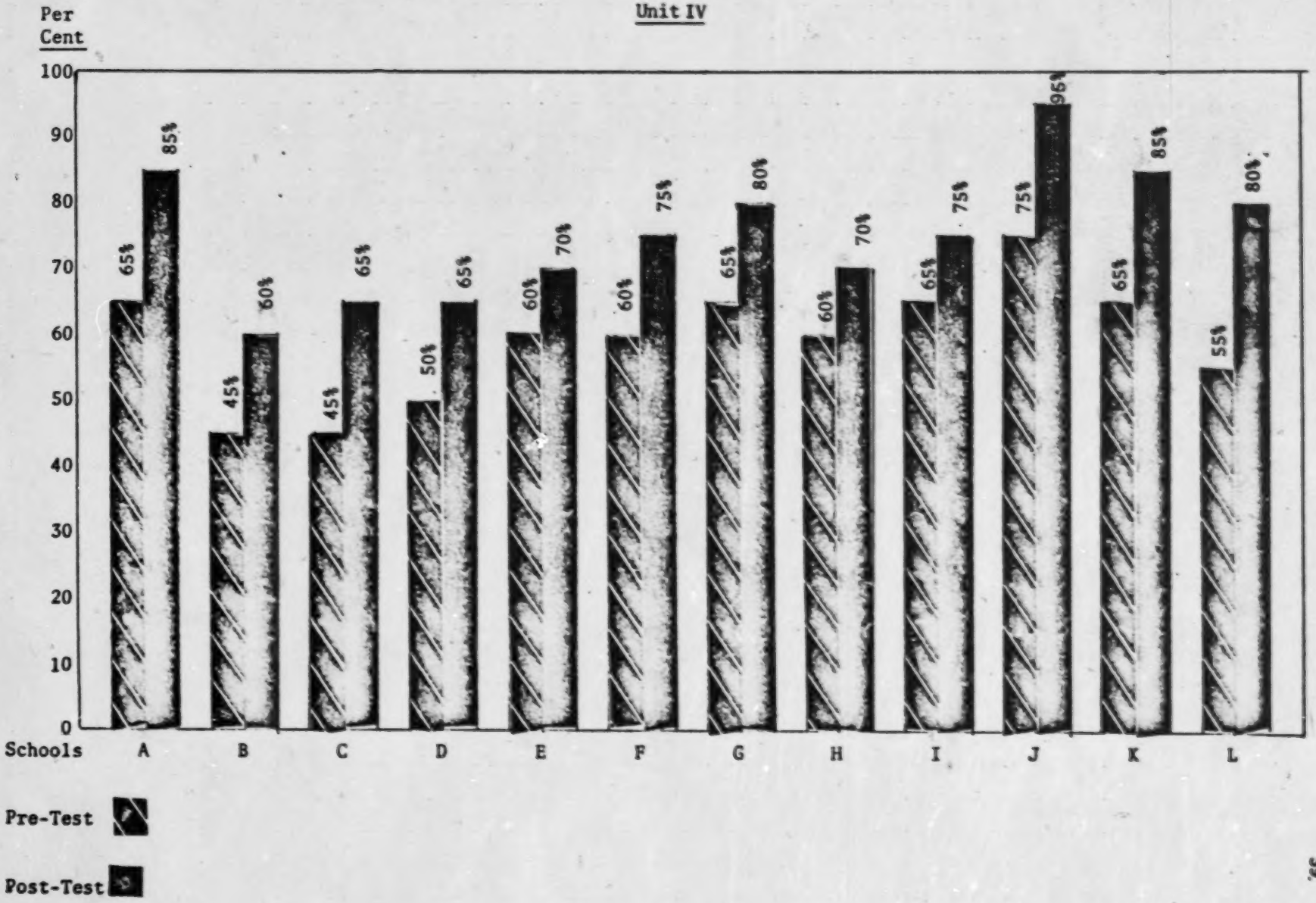


TABLE 16

PROJECT STUDY

Average Levels of Accuracy - Pre-Post Test Scores

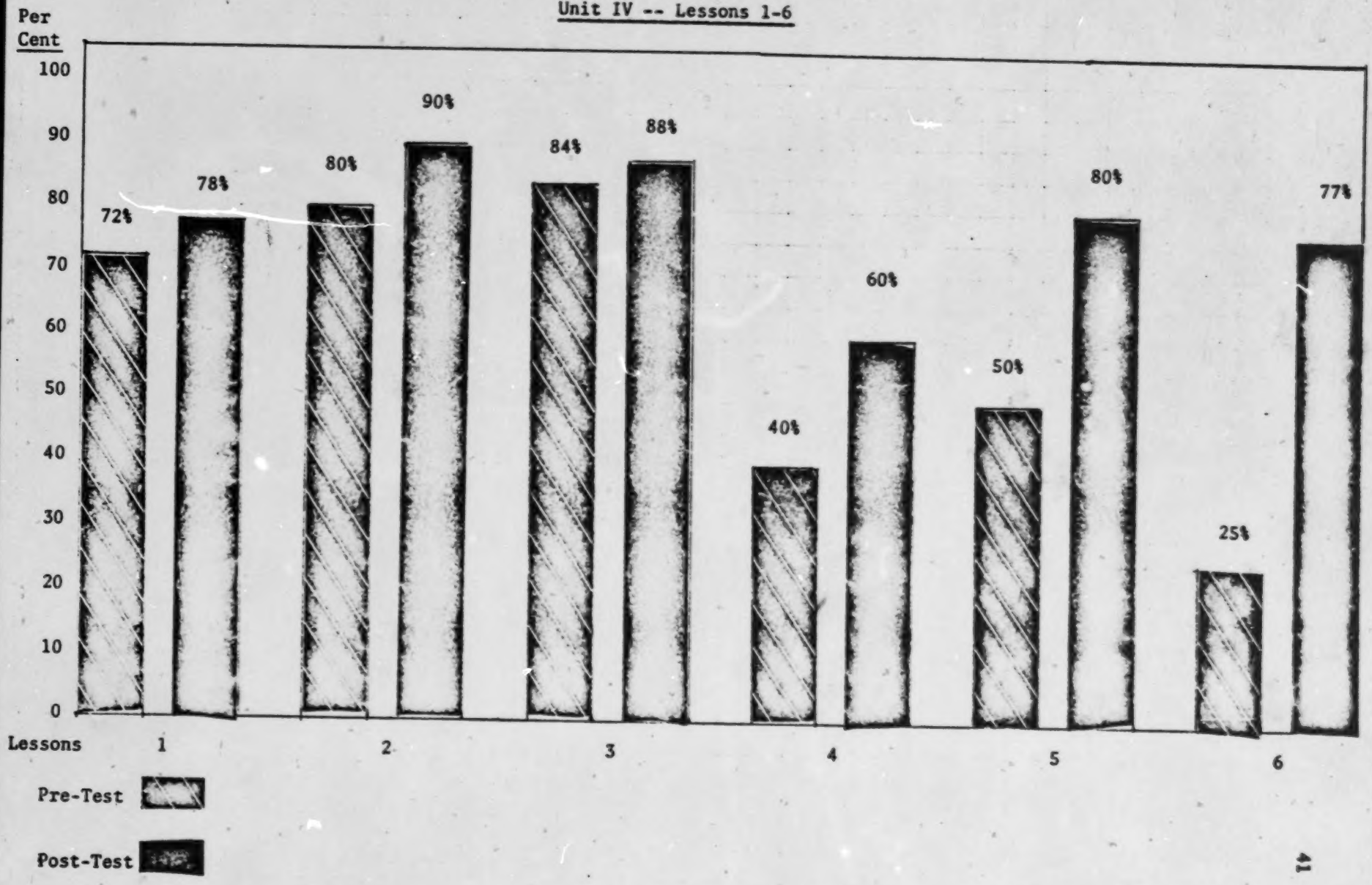
Unit IV - Total Lessons

Lessons	Pre-Test %	Post-Test %	Gained %
1	72	78	6
2	80	90	10
3	84	88	4
4	40	60	20
5	50	80	30
6	25	77	52
TOTAL	59	79	20

PROJECT STUDY

Average Levels of Accuracy -- Pre-Post Test Scores

Unit IV -- Lessons 1-6



PROJECT STUDY

Average Levels of Accuracy -- Pre-Post Test Scores

Unit IV -- Total Schools

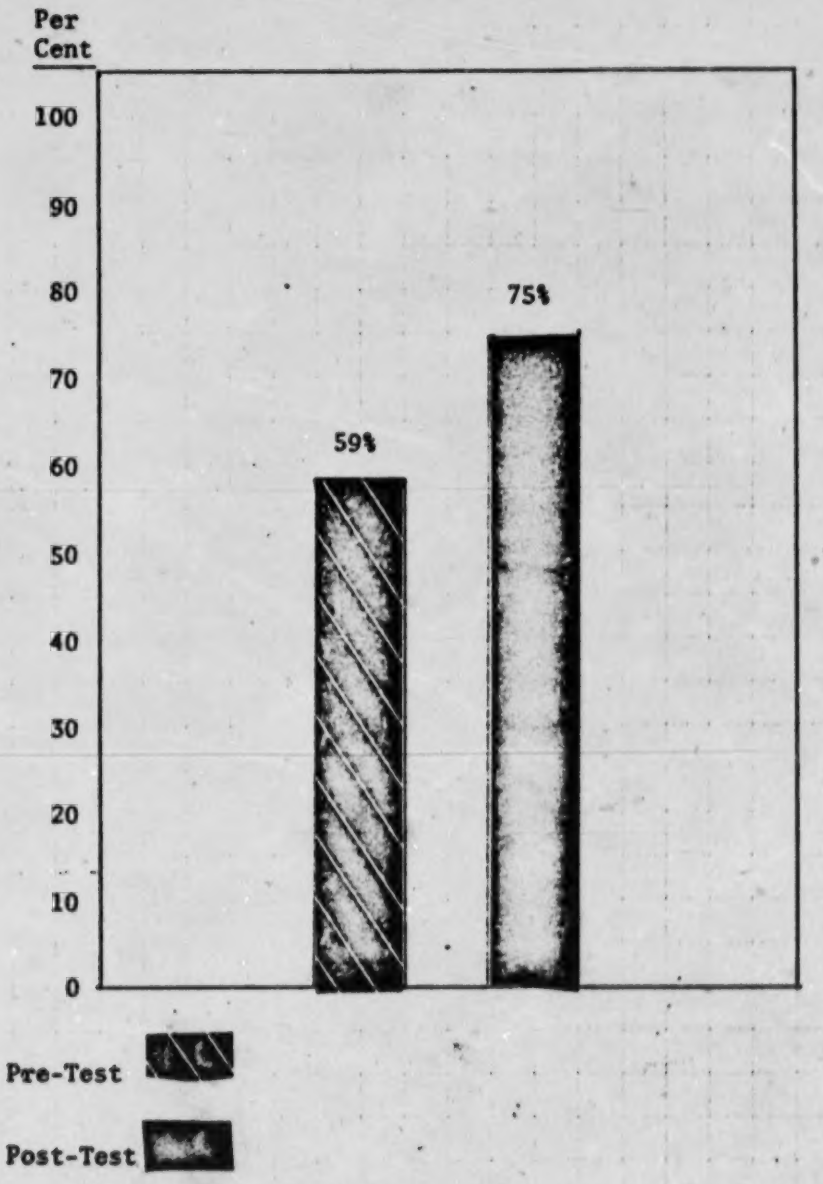


TABLE 17

PROJECT STUDY

Summary of Pre-Post Test Scores

Unit IV

Unit 4 / School	No. of Pupils	Pre-Test Mean	Pre-Test S.D.	Post-Test Mean	Post-Test S.D.	t	Significance Level
A	29	13.31	3.15	16.52	2.42	5.269	.001
B	30	9.20	2.63	11.90	3.41	5.599	.001
C	31	9.35	4.39	12.87	4.89	4.615	.001
D	17	10.18	3.28	13.12	3.45	3.710	.01
E	30	11.53	3.40	14.17	4.16	4.146	.001
F	25	11.60	3.22	15.00	2.73	6.425	.001
G	25	12.88	3.08	16.28	2.25	7.896	.001
H	15	11.67	3.94	13.87	4.94	2.730	.02
I	25	13.44	2.98	15.00	4.80	1.679	.20
J	25	14.80	2.28	19.36	.97	9.572	.001
K	20	13.35	2.29	16.60	2.08	5.940	.001
L	27	10.70	3.83	15.70	2.32	7.476	.001
TOTALS	299	11.77	3.70	15.01	3.95	10.315	.001

TABLE 18

PROJECT STUDY

Summary of Pre-Post Test

Unit IV -- Lessons 1-6

Lesson / School	No. of Pupils	Pre-Test Mean	Pre-Test S.D.	Post-Test Mean	Post-Test S.D.	t	Significance Level
Lesson 1							
E	29	4.55	1.13	4.86	1.14	1.395	.20
H	15	3.93	1.73	4.60	.95	2.000	.10
TOTAL	44	4.34	1.39	4.77	1.08	1.601	.20
Lesson 2							
C	33	3.12	1.25	3.39	1.04	1.427	.20
J	25	3.20	.98	3.92	.27	3.674	.01
TOTAL	58	3.15	1.14	3.62	.84	2.472	.02
Lesson 3							
E	29	3.10	.66	3.17	.70	.571	N.S.
I	21	3.76	.43	4.00	.00	2.500	.05
TOTAL	50	3.37	.65	3.51	.67	1.042	N.S.
Lesson 4							
K	19	1.89	1.62	2.84	1.50	4.869	.001
Lesson 5							
A	29	4.28	1.68	7.76	1.79	7.497	.001
B	24	4.96	1.99	8.75	1.01	8.067	.001
E	18	5.33	2.08	6.78	1.51	2.890	.01
TOTAL	71	4.77	1.94	7.84	1.67	10.010	.001
Lesson 6							
F	27	5.63	2.37	10.41	.83	11.248	.001
L	28	.39	.67	8.14	2.71	14.874	.001
TOTAL	55	2.96	3.13	9.25	2.31	11.855	.001

TABLE 19

PROJECT STUDY

Summary of Pupil Questionnaire

LESSONS 1-6

Lesson / School	No. of Pupils	Very Good %	Good %	Fairly Good %	Not Good At All %
Lesson 1					
B	22	56	32	13	--
D	30	70	6	10	13
I	31	39	52	3	6
TOTAL MEAN	83	55	30	8	7
Lesson 2					
A	23	35	30	30	4
C	27	22	52	19	7
E	28	29	21	36	14
F	23	43	39	17	--
G	27	52	44	4	--
L	22	63	27	9	--
TOTAL MEAN	150	40	36	19	5
Lesson 3					
B	22	64	9	27	--
C	31	35	45	19	--
I	14	43	36	14	7
TOTAL MEAN	67	46	31	21	2
Lesson 4					
H	14	14	29	50	7
J	23	35	35	26	4
E	18	22	11	50	17
TOTAL MEAN	55	25	26	40	9
Lesson 5					
U	22	54	40	5	--
G	26	58	27	15	--
B	22	68	5	14	14
C	36	44	47	8	--
TOTAL MEAN	106	55	32	10	3

TABLE 19 (Cont'd)

PROJECT STUDY

Summary of Pupil Questionnaire (Cont'd)

LESSONS 1-6

Lesson / School	No. of Pupils	Very Good %	Good %	Fairly Good %	Not Good At All %
Lesson 6					
H	15	6	13	33	47
L	21	67	19	14	--
D	29	69	10	14	6
E	26	27	19	42	12
TOTAL MEAN	91	46	15	25	13

Summary of Pupil Questionnaire

LESSONS 7-11

Lesson / School	No. of Pupils	Very Good %	Good %	Fairly Good %	Not Good At All %
Lesson 7					
A	30	37	30	33	--
F	24	42	54	4	--
TOTAL MEAN	54	41	41	20	--
Lesson 8					
E	31	39	26	23	13
K	19	26	37	37	--
TOTAL MEAN	50	34	30	28	8
Lesson 9					
G	27	70	26	--	4
I	29	7	48	31	14
L	25	40	40	16	4
TOTAL MEAN	81	38	38	16	7
Lesson 10					
A	33	52	27	15	6
D	27	48	30	15	7
H	14	14	36	29	21
J	18	44	39	17	--
TOTAL MEAN	92	43	32	18	9
Lesson 11					
E	31	29	23	32	16
F	23	65	35	--	--
L	23	48	30	13	9
TOTAL MEAN	77	45	29	17	9

TABLE 21

PROJECT STUDY

Summary of Pupil Questionnaire

Unit II

Lesson / School	No. of Pupils	Very Good %	Good %	Fairly Good %	Not so Good %	Not Good At All %
Lesson 1						
A	35	57	29	11	3	0
H	14	14	21	29	29	7
TOTAL MEAN	49	45	27	16	10	2
Lesson 2						
B	27	44	26	15	15	0
G	28	57	32	7	0	4
TOTAL MEAN	55	51	29	11	7	2
Lesson 3						
C	36	42	39	17	0	3
I	26	31	38	31	0	0
TOTAL MEAN	62	37	39	23	0	2
Lesson 4						
D	35	71	20	6	0	3
J	22	59	23	14	0	5
TOTAL MEAN	57	67	21	9	0	4
Lesson 5						
E	27	30	19	26	15	11
K	19	5	63	26	0	5
TOTAL MEAN	46	20	37	26	9	9

TABLE 22

PROJECT STUDY

Summary of Pupil Questionnaire

Unit III

Lesson / School	No. of Pupils	Very Good %	Good %	Fairly Good %	Not so Good %	Not Good At All %
Lesson 1						
F	31	38	38	23	--	--
L	29	55	24	14	3	3
TOTAL MEAN	60	47	32	18	2	2
Lesson 2						
A	31	42	32	13	6	6
H	15	13	20	33	20	13
TOTAL MEAN	46	33	28	20	11	7
Lesson 3						
E	28	39	29	14	4	14
G	29	59	28	7	--	7
TOTAL MEAN	57	49	28	11	2	11
Lesson 4						
C	32	44	34	16	6	--
I	29	34	41	17	3	3
TOTAL MEAN	61	39	38	16	5	2
Lesson 5						
D	24	75	17	4	--	4
J	24	8	29	42	21	--
TOTAL MEAN	48	42	23	23	10	2

TABLE 23

PROJECT STUDY

Summary of Pupil Questionnaire

Unit IV

Lesson / School	No. of Pupils	Very Good %	Good %	Fairly Good %	Not so Good %	Not Good At All %
Lesson 1						
E	27	4	11	41	11	33
Lesson 2						
K	25	64	32	4	--	--
C	35	29	40	26	3	3
TOTAL	60					
MEAN		43	37	17	2	2
Lesson 3						
I	21	24	29	19	14	14
Lesson 4						
F	23	30	52	13	--	4
K	21	10	57	19	14	--
TOTAL	44					
MEAN		20	55	16	7	2
Lesson 5						
B	24	46	17	25	8	4
E	28	--	14	39	14	32
A	26	62	38	--	--	--
TOTAL	78					
MEAN		35	23	22	8	13
Lesson 6						
G	32	44	34	16	3	3
L	30	3	13	27	30	27
TOTAL	62					
MEAN		24	24	21	16	15

G. DISSEMINATION

- The learning packet was made available to other schools in Cleveland Public School District and cooperating non-public schools.
- Project information was featured in the Superintendent's Bulletin which is sent to Principals, Supervisors, and Headquarters staff.
- The learning packet was shared with other public school systems in the State of Ohio by the Project Director.

H. CONCLUSIONS/RECOMMENDATIONS

The evaluation data indicate that Project Study was successful in attaining all of its objectives except Objective One. However, data also prove that there were positive gains by pupils in all classes.

Positive attitudes of pupils, parents and teachers toward Project Study as well as the gains made by pupils reflect the <u>great impact</u> Project Study had on the participants.

The problems that were prevalent during the field-testing of the packet were adjusted at the inservice meetings with assistance from the Directing Supervisor of Language Arts.

The most important change brought about by the Project Study was with respect to pupils and instructional variables. The pupils, as a result of being taught independent study skills, developed a greater competency for self directed learning. Also many of the participating teachers reported that they had completely changed their teaching style. They related that they learned not to make assumptions concerning pupils' ability level.

All of the field-testing of the packets was done in the sixth grade. It has been recommended that this study skills project begin in an earlier grade, probably as early as the fourth. Students would have more time to practice these skills before entering high school.